

CLAIMS

1. A tumor targeting unit comprising a peptide sequence:



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or a pharmaceutically or physiologically acceptable salt thereof,
wherein,

Dd-Ee-Ff is Aa-Bb-Cc or Cc-Bb-Aa, wherein

10 Aa, is isoleucine, leucine or *tert*-leucine, or a structural or functional
analogue thereof;

Bb is arginine, homoarginine or canavanine, or a structural or functional
analogue thereof;

Cc is serine or homoserine, or a structural or functional analogue
thereof;

15 Rr are each, independently, any amino acid residue or a structural
or functional analogue thereof;

n and m are, independently, 0, 1, or 2, and the sum of n and m does
not exceed two; and,

Cy and Cyy are entities capable of forming a cyclic structure.

20 2. The tumor targeting unit according to claim 1, wherein the peptide
is cyclic or forms part of a cyclic structure.

3. The tumor targeting unit according to claim 2, wherein the cyclic
structure is formed through an amide, lactam or disulphide bond.

25 4. The tumor targeting unit according to claim 3, wherein one of Cy
and Cyy is aspartic acid, glutamic acid or a structural or a functional analogue
thereof, and the other is lysine, ornithine or a structural or functional analogue
thereof.

5. The tumor targeting unit according to claim 3, wherein Cy and
Cyy are cysteine or a structural or functional analogue thereof.

30 6. The tumor targeting unit according to any one of claims 1 – 5,
wherein Rr are any amino acid residues, except histidine or lysine.

7. The tumor targeting unit according to claim 6, wherein Rr is se-
lected from the group consisting of glycine, arginine and structural or functional
analogues thereof.

35 8. The tumor targeting unit according to claim 5, selected from the
group consisting of CLRSC (SEQ ID NO. 1), CSRLC (SEQ ID NO. 2).

9. The tumor targeting unit according to claim 4, selected from the group consisting of DLRSK (SEQ ID NO. 3), DLRSGRK (SEQ ID NO. 4), DRGLRSK (SEQ ID NO. 5), OLRSE (SEQ ID NO. 6) and KLRSD (SEQ ID NO.7).

5 10. The tumor targeting unit according to any of the previous claims, wherein the unit is derivatized, activated, protected, resin bound or other support bound.

 11. A tumor targeting agent comprising at least one targeting unit of any of claims 1 to 10, directly or indirectly coupled to at least one effector unit.

10 12. The tumor targeting agent according to claim 11, wherein the effector unit is a directly or indirectly detectable agent or a therapeutic agent.

 13. The tumor targeting agent according to claim 12, wherein the detectable agent comprises an affinity label, a fluorescent or luminescent label, a chelator, a metal complex, an enriched isotope, radioactive material or a
15 paramagnetic substance.

 14. The tumor targeting agent according to claim 13, wherein the detectable agent comprises a rare earth metal.

 15. The tumor targeting agent according to claim 14, wherein the detectable agent comprises gadolinium.

20 16. The tumor targeting agent according to claim 12, wherein the therapeutic agent is selected from the group consisting of cytotoxic, cytostatic and radiation emitting substances.

 17. The tumor targeting agent according to claim 16, wherein the therapeutic agent comprises doxorubicin, daunorubicin, methotrexate or boron.

25 18. The tumor targeting agent according to any of claims 11 – 17, further comprising an optional unit.

 19. A diagnostic or pharmaceutical composition comprising at least one targeting unit according to any one of claims 1 to 10, or at least one targeting agent according to any one of claims 11 to 18.

30 20. Use of a targeting unit according to any one of claims 1 to 10, or a targeting agent according to any one of claim 11 to 18 for the preparation of a medicament for the treatment of cancer or cancer related diseases.

 21. The use according to claim 20, wherein said cancer or cancer related disease is a solid tumor.

22. The use according to claim 21, wherein said solid tumor is selected from the group consisting of carcinoma, sarcoma, melanoma or metastases.

23. A method for treating cancer or cancer related diseases, comprising providing to a patient in need thereof a therapeutically effective amount of a pharmaceutical composition according to claim 19.

24. The method according to claim 23, wherein said cancer or cancer related disease is a solid tumor.

25. The method according to claim 24, wherein said solid tumor is selected from the group consisting of carcinoma, sarcoma, melanoma or metastases.